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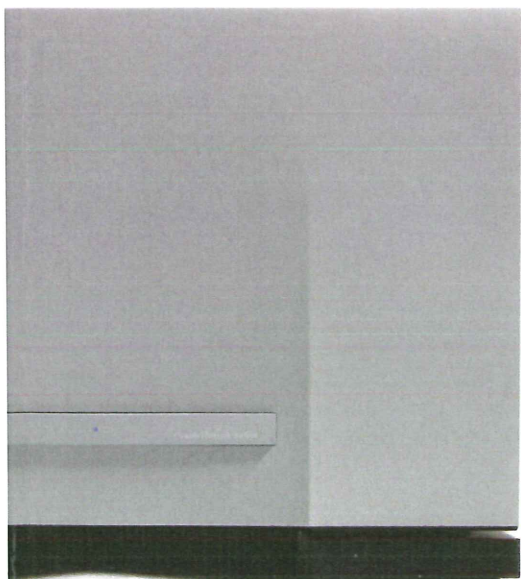
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WORLD EXCLUSIVE
CONSTELLATION'S MIGHTY HERCULES II
POWERS UP OUR AMPLIFIER SPECIAL ISSUE

Constellation Audio Hercules II

by Alan Sircom

Let's get the headline story out the way first. This Constellation Audio Hercules II stereo amplifier from the company's Reference Class is the best amplifier I have ever heard, and by a significant margin. OK, at £85,000 it's also one of the most expensive, too. But, I have had a lot of experience with audio's top table, and the Hercules II pushes 'best' to new levels.

That 'best' part also extends to the finish, which is something people have commented on from the first days of Constellation Audio. The aluminium casework of this amplifier is so far beyond the norm, comparisons are meaningless. Exemplary doesn't even get close. The finish almost looks like it has been plastic coating or painted until you get up close and really look at it and especially run your hand across the finish. It is simply without parallel.

As distinct from the original Hercules, the Constellation Audio Hercules II comes in stereo and mono form, but you'd be hard pressed to tell them apart from the inside or out, save for the second set of RCA phono, XLR balanced, and XLR direct connections at the bottom of the rear plate (the mono amp uses the second set of multi-way loudspeaker terminals for bi-wiring). Naturally, this kind of amp requires a beefier-than-usual 20A IEC terminal.

Constellation Audio followers might note there is a fairly big difference between Hercules and Hercules II. The original was an upright monoblock chassis, looking rather like a pair of tower computers, where the newer models – stereo, and mono – are more conventional power-amp shaped devices. This was one of the reasons for the change from Hercules to Hercules II – the original towers look great, but a single tower between the loudspeakers didn't have the same appeal, so a more conventional stereo design was mooted. This design demanded a very different layout, and it was decided to apply the same form factor to the revised monoblock amplifiers, in the process making them more powerful. And they are powerful: the Hercules II stereo tested here delivers an impressive 550W into eight ohms, where the new mono amplifier delivers a mighty 1,100W into the same load.

However, the basic circuit of the original Hercules remains the same in the Hercules II, even though there is no such thing as a 'basic' circuit on a Constellation device. In fact, the circuit is more like a 'greatest hits' of all the things you'd

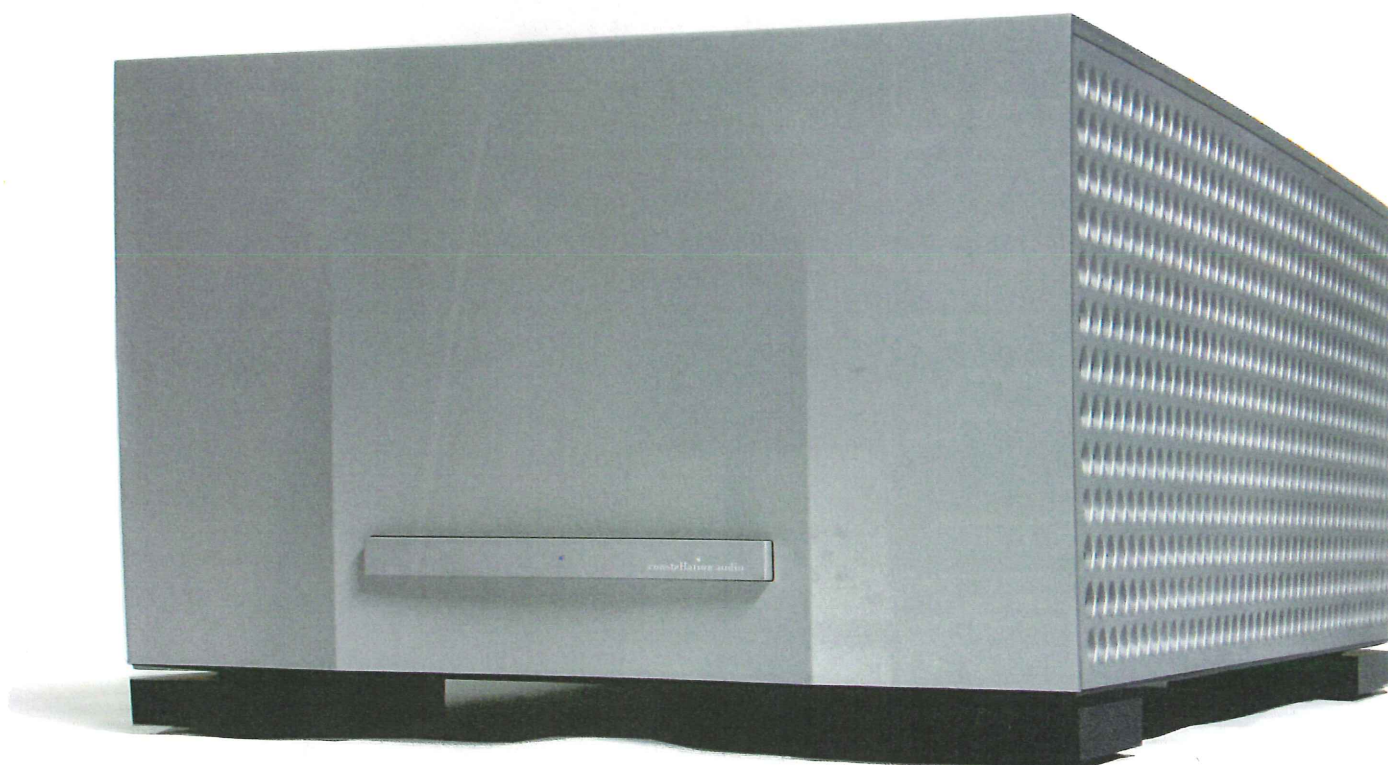
want from an amplifier circuit, with the best components that were made for an amplifier of its kind (irrespective of price or current availability), designed and built by a 'dream team' of the finest amplifier engineers the world has ever seen. And, unlike other 'greatest hits', it doesn't come with half an album full of 'filler' tracks.

The problem with power is how to deliver more of it without making something less good sounding in the process. While not every amp maker shares that concern – manufacturers are quite content with piling on the power, regardless – Constellation designed the Hercules architecture as inherently scalable, centred around 125W amplifier modules, with amplifiers from the Inspiration series up to this Reference series using successively more modules, all featuring Constellation's rare stock of higher-specification, close tolerance components. What makes this Constellation concept sound so good is that it sounds as tight and as fast as a 125W amplifier, but with the added bottom end control and dynamics that you get from more powerful amplifiers.

Designing a stereo amplifier that cannot sit in the shade of the monoblocks was not an 'easy task', but neither would it be right to build a stereo chassis that overshadowed its bigger brothers. The result is a stereo chassis that echoes one channel of the monoblock almost perfectly. These design criteria all necessitated a move to a larger power supply from the original Hercules mono, with significantly greater amounts of storage capacitance, which is no mean feat in and of itself. This extra storage allows the Hercules II to smooth out the DC from the wall more deftly than before, and the increased size of the amplifier chassis means it is possible to double the size of the copper bus bars that run through the architecture.

This also meant doubling the size of the transformers in the power supply, moving from an unliftable pair of 1,500W toroidal devices, to a completely unliftable pair of 3,000W toroidals. All of which serve to make a single chassis amplifier capable of delivering up to a 1kW into a two ohm load, which equates to an ability to drive virtually every loudspeaker that ever graced a domestic listening room, no matter how demanding that loudspeaker may be.

This sheer power delivery on offer by the Hercules II is not the whole story, however. Although not commonplace, high-end power amplifiers capable of delivering half a kilowatt



“Combining the refinement and pace so loved by small-amp aficionados, with big amp range and scale. A perfect partnership.”

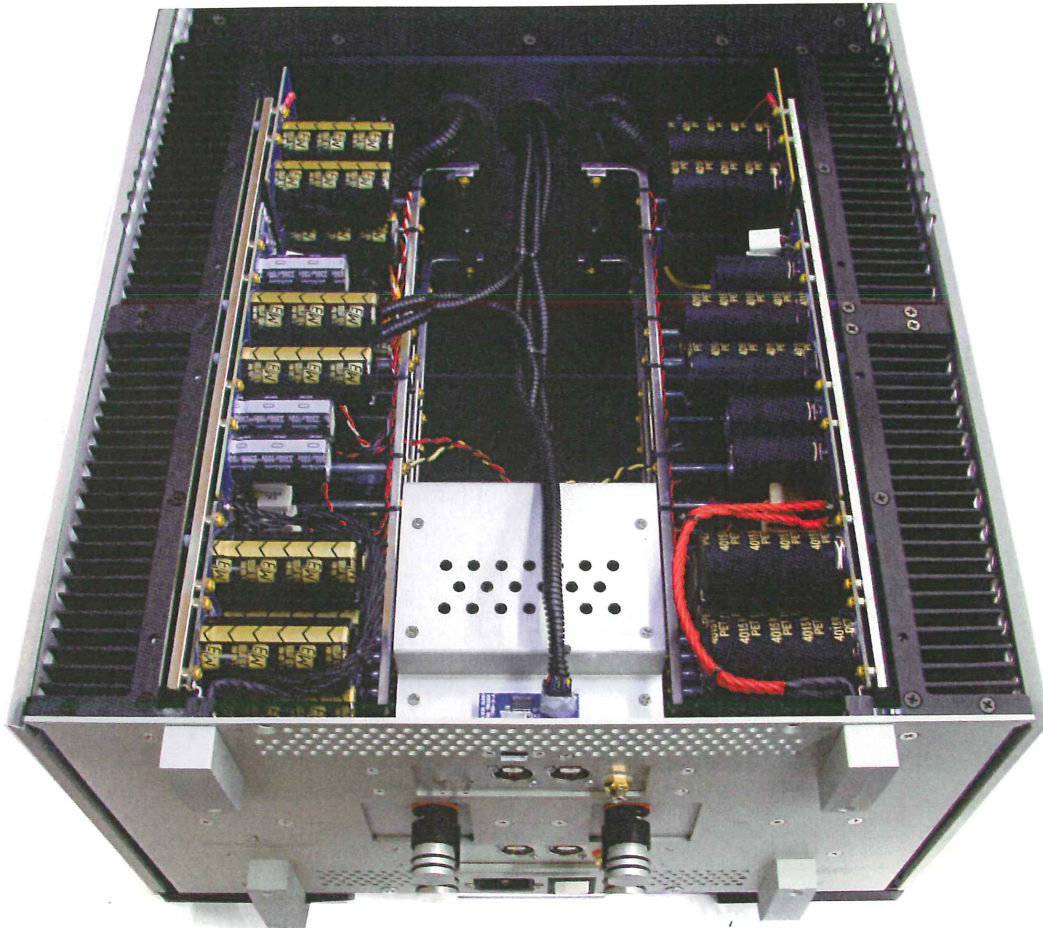
of power (or more) have been on the audiophile circuit for some time. Using FETs in the input stage is not unheard of, although the use of rare and long-discontinued audio-special FETs is another matter. Even making an amplifier by adding together a collection of modules has been done before, albeit with mixed success. But what's different in the Constellation design is how it delivers that power.

This is an amplifier that uses all of the strengths of a balanced amplifier (such as a low noise floor, greater dynamic range, and an ability to use long cable without significantly changing the sound), and combines them with the refined and sophisticated sound of a single-ended design. Instead of the usual arrangement of P-type (Positive-Negative-Positive) transistors handling the positive rail of the balanced line, and N-type (Negative-Positive-Negative) transistors handling the negative rail, the Hercules II modules are two single-ended amplifier designs, ending in N-type transistors in the output stage. This design has significant advantages over other circuits, because N-type and P-type transistors behave very differently, and that difference undermines the sound quality.

Constellation's amplifier design has an additional advantage to the circuit: it makes it inherently stable into all kinds of loudspeaker loads. As a result, Constellation Audio could remove the Zobel network, commonly found on amplifiers as a form of high-frequency protection circuit, for even better performance.

By making a set of single-ended N-type circuits, and stripping away the Zobel network, Constellation Audio discovered it had cracked the code to making small Class A amplifiers in very large packages, and combining the refinement and pace so loved by small-amp aficionados, with big amp range and scale. A perfect partnership.

Of course, this perfect partnership in the power amplifier only really works if every component in the chain is as uncompromising in intent as the Hercules II. In most cases – make that ‘in all cases’ – this would mean a Constellation preamplifier, such as the £65,000 Altair II in the Reference line. A good part of this is because that aforementioned input FET stage (more accurately a servo-controlled input FET stage) is functionally identical to the one found in the Virgo or Altair ►



▶ preamp lines, and as a consequence Constellation took the extremely clever idea of making a 'direct' input, alongside the balanced and single-ended inputs, which completely by-passes the input stage of the Hercules II in favour of the output stage of any Constellation Virgo or Altair preamp. The removal of an additional stage in the chain makes a clear difference, and for most people with full-range speakers, a clear improvement, too.

Similarly, the choice of loudspeaker and source must be of the absolute best, too. This is not a stark or revealing amplifier, but when you are creating a system that delivers this quality of performance, it deserves (rather than demands) full-range loudspeakers up there in the absolute reference class and a source (or sources) that highlight what the amps are capable of.

That speaker choice probably means big Magicos, or Wilsons, or YGs, or some equally top-of-the-tree transducer. Yes, you will get to hear what a pair of extremely good standmounts can do when fed the best possible signal, but if you have that best possible signal, you should put it to good use. Source wise, Constellation's own 'stellar' contributions

notwithstanding, you will be in the upper atmosphere of digital or analogue, at top dCS, Metronome, or Meitner levels to realise the potential of the Hercules II. Ultimately, the Hercules II is a world-class product and should be used in among its world-class peers.

We could focus even more on the technology, the system matching, even the 'dream team' that made the Hercules II. But after listening to the amplifiers for any significant amount of time, all of that melts away. In fact, all that remains is the 'small amp sound, big amp power' mantra, because that is precisely what the Hercules II does, and does brilliantly.

Put simply, the Hercules II makes a sound without any of the compromises we have become so used to in amplification. We forgot why we loved that sweet-sounding valve amplifier, because along the way we came to desire amplifiers that could drive a loudspeaker well and serve up bigger and better dynamic range at higher volumes with more demanding loudspeakers. But with the Hercules II, you gain both sides of the equation, the grace, the speed, the charm, the inviting magic of a small, deft single-ended tube amp, with the unshakable authority of seemingly endless power. ▶